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ABSTRACT

This study evaluated the relationship between Massachusetts special education expenditures and revenues and the overall allocation of school budgets between special and regular education. An introduction reviews the study's background, census-based funding in Massachusetts, education reform efforts in the state, the Foundation Budget approach which combines local community and state resources with the purpose of providing all schools with adequate and equitable education resources, and the current funding formula. The study analyzed quantitative data, including existing fiscal, student, staffing, and programmatic data from 81 schools in 25 school systems, as well as qualitative data, including interviews with the 25 special education directors. Major findings from the quantitative data are reported in text, tables, and graphs for: personnel expenditure allocation; per student personnel costs; allocation among special education services; costs of inclusion; and comparison of revenues and expenditures for special education. The interviews resulted in identification of policy issues and concerns about the following aspects of the existing formula provisions: flexibility, private residential funding, cost issues, percentage of students identified, types of placement, standard of service, and parental rights to independent assessment. Insufficient funding was the predominant concern expressed by the special education directors interviewed; however, essentially no desire for major changes in the current funding system was found. (DB)

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State Analysis Series

Special Education Expenditures and Revenues in a Census-Based Funding System:

A Case Study in the Commonwealth of Massachusetts

Jay G. Chambers
Thomas B. Parrish
Christine Hikido
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AMERICAN INSTITUTES FOR RESEARCH

The Center for Special Education Finance (CSEF) is part of the John C. Flanagan Research Center at the American Institutes for Research (AIR), Palo Alto, California.

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The Center for Special Education Finance (CSEF) was established in October 1992 to address a comprehensive set of fiscal issues related to the delivery and support of special education services to children throughout the U.S. The Center's mission is to provide information needed by policymakers to make informed decisions regarding the provision of services to children with disabilities, and to provide opportunities for information sharing regarding critical fiscal policy issues.

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I. Introduction

This study was motivated by an interest in exploring the patterns of allocating resources to special education under a census-based funding system. The Commonwealth of Massachusetts, which passed the Education Reform Act of 1993, provides an appropriate target of opportunity for such a study. As part of the Reform Act, the Massachusetts legislature directed the state Department of Education to conduct a study of special education expenditures and service delivery under the new census-based funding system. This study was a response to that mandate.

A principal question addressed by this study revolves around the relationship between special education expenditures and revenues. Department of Education and legislative officials expressed interest in knowing how the allocations of revenues for special education services compare to expenditures under the census-based funding system. Since funds were allocated based on a total count of school children, there was no requirement that funds allocated for special education be expended on such services. Thus, of interest in this analysis is how the revenues compare on average with actual expenditures.

This study also explores the overall allocation of school budgets between special and regular education. Much discussion has recently focused on how much of total educational expenditures is allocated to special education expenditures, and indeed concern has been expressed about the encroachment of special education services on regular education budgets. Other questions of interest include how special education budgets are allocated among different types of services, and what kinds of services children eligible for special education are receiving.

With these issues in mind, the analyses presented in this paper are organized around the answers to three specific questions:

- How much of the school site budget is accounted for by special education relative to regular education?
- How is the special education budget allocated among services?
- How do revenues and expenditures compare for special education?

Background for the Study

There has been significant activity across the country with regard to special education finance reform. According to a recent survey by the Center for Special Education Finance (CSEF), 15 states have implemented special education funding reform in the last five years. In addition, 32 states, including 2 of the 15 that have recently implemented reform, are currently considering major reform (Chambers, Parrish, Hikido, Dueñas, 1995). Major issues driving reform reflect the concern over controlling the growth in special education identification rates and overall costs, the desire for greater flexibility in the provision of special education services, and the desire to remove fiscal incentives for restrictive placements. Reform is also being driven by the more traditional finance goals of increasing the accountability, adequacy, and equity of the funding systems.

State funding formulas for special education are divided into four basic types: flat grants, pupil weights, resource-based, and percentage reimbursement. Two important features distinguish these formulas, in terms of their policy impact: (a) the basis on which the funding allocations are made (e.g., total enrollments, special education enrollments only, enrollments by disability category, or type of placement) and (b) whether or not the funds must be expended exclusively on the designated population. For example, allocations based on the type of student placement (e.g., special day class) tend to afford the least flexibility to local decisionmakers. In contrast, allocations based on more general criteria, such as total district enrollment, are likely to allow much more discretion in identifying and placing students. Similarly, a restriction that state special education funds must be spent exclusively on special education students favors fiscal accountability, but reduces local control. While this type of restriction is often presumed to exist, it is interesting to note that 35 of the states responding to the CSEF survey do *not* require that all special education funds be spent exclusively on special education services (Chambers et al., 1995).

The states are not all taking the same direction in revising their special education funding policies. However, two important trends can be observed. First, an increasing number of states are moving *away* from funding systems that tie state aid to the *number of students* identified for special education services and are moving *toward* funding systems that are *census-based*. Second, states appear to be moving toward the *more flexible use of special education funds*.

Census-based funding

Initially adopted by Vermont as a major component of its special education finance formula, census-based funding has since been adopted by Pennsylvania and Montana; and more recently it has become the primary basis for the Massachusetts special education funding system.

Under census-based funding systems, state revenues for special education are generated solely on some standardized census or enrollment count of all students. The amount of state special education aid received is entirely independent of the number of students specifically identified to receive special education services, or the type or cost of services received.[1]

Census-based funding represents a major departure from prior special education fiscal policy. Analyses of this approach point to inherent strengths as well as weaknesses. Proponents see it as the most effective way to provide districts with discretion and flexibility and to remove incentives for identifying more special education students and for placing them in more restrictive placements. Proponents also view census-based funding as a way to stabilize costs. Opponents see it as a retreat from the more traditional state and federal role of promoting special education and possibly as a dangerous step toward eroding protection under the federal Individuals with Disabilities Education Act (IDEA).

In addition to states that have adopted census-based funding systems, other states, including Illinois and California, are currently circulating reform plans of this type for public consideration. States adopting this type of funding system cite such objectives as reducing administrative burden, increasing local flexibility, neutralizing incentives for identification and restrictive placements, and bringing rising special education costs under control.

[1]However, many of the states with census-based funding models allow for exceptions to this general rule. For example, an exception in Massachusetts for private residential placements is discussed later in this paper.

Although many policymakers appear to see census-based systems as the future of special education finance, judicial challenges may be on the horizon. For example, a recent Alabama Circuit Court found that a similar "total enrollment" method used to calculate state special education aid was in violation of the Alabama constitution (Harper v Hunt, 1994). This approach was found to be "irrational and arbitrary" because school systems with higher percentages of special education students receive less special education aid per student than similar districts with fewer special education students.

- **More flexible use of funding**

State special education funding is tightly earmarked for the provision of special education services in over one-half of the states. In many state funding systems, revenues are generated on the basis of counts of students in certain types of placements, or on the acquisition of prespecified types of resources within a limited list of possible service settings. Special education administrators increasingly cite such highly prescriptive funding models as creating considerable difficulties in districts and states wishing to be more inventive in the types of instructional service models employed, especially as they relate to the provision of more inclusive special education services. Consequently, some states appear to be moving toward allowing the more flexible use of special education funds.

Education Reform in Massachusetts

In June 1993, Governor William Weld signed into law a comprehensive Education Reform Act passed by the Massachusetts state legislature. This legislation was intended to provide the state with four major components necessary to ensure high quality education for every student: (a) new standards and programs that ensure high achievement for all students, (b) enhanced quality and accountability for all educational personnel, (c) a governance structure that encourages innovation and accountability, and (d) a fair and equitable system of school finance. As a result, there has been an increase in the state share of education costs and a heightened interest in increasing understanding of patterns of resource allocation in local schools.

Prior to the Education Reform Act, special education funding in Massachusetts relied on a system of weights based on student placement. Under the current state funding formula, however, additional funds for special education are allocated to school systems based on a fixed percentage of the entire student population that is presumed to require special education services.

The Foundation Budget in Massachusetts

Central to the Massachusetts Reform Act is the establishment of a general funding formula to provide all schools with *adequate and equitable* education resources for all programs. These resources provide the Foundation on which the rest of the reform components are built. This Foundation budget, comprised of a combination of community and state resources, is based on assumptions regarding educational service requirements for the number and types of students in attendance and a standard of local taxation for every community.

■ General formula

The Foundation budget for each school system is unique. It starts with enrollment by level (kindergarten, elementary, middle school, high school) and applies standards for class size, support staff, administrative staff, books and equipment, maintenance, athletics, and professional development. Adjustments are made for wage-level differentials across the state and for the number of low-income, bilingual, and vocational students in attendance.

Every city and town is expected to make a reasonable tax effort on behalf of its students. A minimum standard of effort (i.e., tax rate) is determined to assure fairness among communities. A community's ability to pay is measured by property wealth and personal income. In effect, these wealth factors act as adjustments to require less of low income cities and more of wealthier communities.

The difference between the Foundation budget and the community spending level is the "foundation gap." Cities and towns are at various stages of reaching the foundation-level spending. Over the next five years, resources envisioned by the formula will be available to all cities and towns.

■ State special education funding

Funding for special education is included in the Foundation budget. All students are first counted as *regular education* with resources identified. The foundation formula then provides additional funds for *special education* based on a fixed percentage of students needing special education services. The state provides special education funding based on *presumptions* regarding the percentages of the total student population who will be served by the special education program. The provisions of the formula divide special education services into two categories: students served *within the district* and students served *outside the district* (i.e., in

external placements). The components of the formula as applied in 1994/95 for each group are outlined below:

- **Special education students served *within the district*:**

  The formula *assumes* that

  1. Fourteen (14) percent of the entire student population will be served by the special education program provided *within the district*.[2]
  2. The average special education student spends 25 percent of the school day receiving special education services.
  3. The cost of serving a full-time special education student is $14,870.

  Thus, total funding for special education students served *within the district* (**TSEF_IN**) is determined by the following formula:

  TSEF_IN = .14 × .25 × $14,870 × **TOT_ENR**

  where **TOTENR** = total enrollment of all students in the district

- **Special education students served *outside the district*:**

  The formula *assumes* that

  1. One (1) percent of the entire student population will be served by the special education program provided *outside the district*.
  2. These students are assumed to be full-time in special education services at a cost of $15,533.

  Thus, total funding for special education students served *outside the district* (**TSEF_OUT**) is determined by the following formula:

  TSEF_OUT = .01 × 1.00 × $15,533 × **TOT_ENR**

  where **TOTENR** = total enrollment of all students in the district

Thus, the basic revenue allocated to each district for special education services is the sum of these two components (i.e., TSEF_IN + TSEF_OUT). In addition, the state pays 50 percent of the tuition of students *actually* placed in out-of-district *residential* placements.

[2]For regional vocational schools, the formula assumes that 18 percent of the student population will receive special education services for *within-district* placements.

II. Study Methodology

Data Collection

This study required two types of data: *quantitative* data on the personnel and nonpersonnel resources devoted to the provision of educational services and *qualitative* data on the perceptions of local special education directors regarding the new funding formula. To acquire the quantitative data, CSEF staff requested reports containing specific fiscal, student, staffing, and programmatic data from local special education directors, district fiscal officers, and school principals. Statewide data sets, the School Summary, and End-of-the-Year reports to the Massachusetts Department of Education provided additional information regarding special education enrollments, out-of-district student placements, and tuition expenditures.

Interviews with the 25 special education directors in the sample provided qualitative information on the special education finance system and delivery of services. The interview protocol included specific questions regarding the major areas of concern in funding special education, disincentives and incentives associated with the funding system, the adequacy of the funding system for meeting their needs, the funding system's impact on regular education, possible improvements to the funding system, costs for litigation involving special education students, and the tuition for out-of-district placements.

Sample Selection

The sample for this study consisted of 25 school systems and 81 schools, as shown in Table 1. The sampling procedure was designed to acquire information that would be representative of statewide practices. The school systems were stratified along three dimensions: (a) type of school system (e.g., K-12, elementary, regional

vocational, and regional academic),[3] (b) percentage of students identified for special education, and (c) school system enrollment. The reason for stratifying the sample according to these criteria was that the nature of the services offered and the combination of grade levels served in these schools were likely to lead to systematic differences in the patterns and configurations of resources allocated to special education services. Within each strata, the sample school systems were selected with a probability proportional to enrollment (i.e., larger districts had a greater chance of being selected). Three of the school systems in the original sample declined to participate and were replaced with a matching school system from a second sample selected for this purpose. One district participated in the special education director interview, but did not participate in the other data collection activities.[4]

Table 1
Sample of districts and schools used in analysis

	Districts	Elementary Schools	Middle/ Junior Schools	High Schools
Local K-12 School Systems	17	36	16	18
Elementary School Systems	2	4	0	0
Regional School Systems (vocational and academic combined)	6	2	0	5
Total	25	42	16	23

Data Analyses

Data pertaining to the job assignments and job titles of every individual employee providing full-time or part-time services at a school site are included in the analyses presented in this paper. Much, though not all, of the analyses focus on special education expenditures at the school site; the dollar figures presented include only personnel expenditures. Since nonpersonnel data are *not* generally broken down by school site and are more difficult to allocate among education programs, no attempt has been made to include nonpersonnel expenditures in

[3]The elementary school systems tend to exist in relatively small communities and serve only small K-8 schools. The regional vocational and academic schools draw students from a number of other school systems within a given region in the state.

[4]A detailed description of the sampling plan and data collection instrumentation and procedures are contained in the appendices to the full report (Chambers et al., 1995).

many of these school-level figures. School-level nonpersonnel expenditures (e.g., books, instructional supplies, materials) represent only a relatively small percentage of the overall *site budget* (less than 8 percent); thus, their exclusion from most of the tables should not create a significant distortion in the relative allocation of resources among programs.

However, it is important to note that in comparing overall revenues to expenditures at the district-level later in this paper, nonpersonnel expenditures *are* included in the analysis. Moreover, this comparison of revenues and expenditures also takes into account district-level expenditures for overall program administration and support services. Only direct and indirect expenditures specifically related to special education services are included in this analysis, and no attempt is made to allocate district overhead for personnel, payroll, fiscal, facilities, or overall district administrative services to special education. Program administration and support include only those individuals who are directly assigned to supervise or administer programs and personnel providing services to special education students.

In some instances, the data are organized around the sampling strata for school systems and schools. Because of the size of the sample and concerns over identification, data for regional academic and vocational school systems are combined. When relevant for the discussion, data are presented separately within each type of district for elementary, middle/junior high, and high schools because of the significant differences in the technologies for service delivery at each level.

All data presented in the figures in this paper are based on a representative sample of schools and districts. Data are weighted in order to reflect estimates of population statistics for Massachusetts. Averages presented represent the values for the school system or school attended by the typical special education student in the state.[5]

Since many of the figures in this paper focus on allocations at the school site, it is important to point out that only a portion of school system budgets actually reaches the school building. Although district-level expenditures are included in the analysis later in this paper, the earlier figures focus only on allocations to the

[5]Tables containing more detailed breakdowns of the data presented in this paper are presented in Appendix C of the final report (Chambers, et al., 1995). Only selected items are highlighted in this paper.

school site.[6] Based on data provided by the Massachusetts Department of Education, it is estimated that spending on school site personnel represents approximately 70 percent of total per student spending in local K-12 school systems, 79 percent in elementary school systems, and 66 percent in regional school systems.[7] It is this portion of spending at the school site that is the focus of the present analysis.

[6]Itinerant special education personnel, those who serve students in multiple school sites but are not based at a particular school, are included in these estimates.

[7]1994-95 estimated expenditures from the 1993-94 End-of-Year report data set.

III. Results of the Empirical Analysis

How much of the school site budget is accounted for by special education relative to regular education?

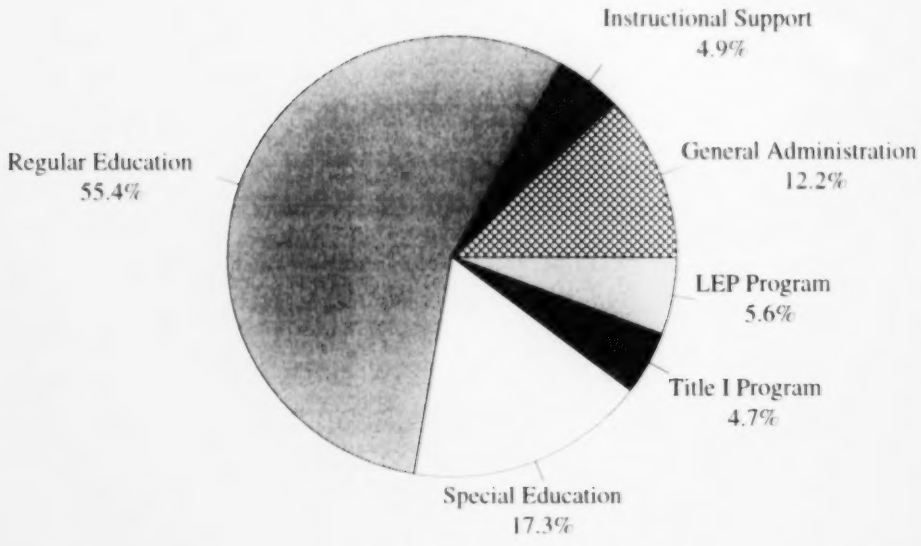
There has been much discussion in the popular press about the percentage of the education budget being allocated to special education (Shapiro, Loeb, Bowermaster, Wright, Headden, & Toch, 1993). Figure 1 presents data on the overall average per student spending at the school site on education personnel and on how these funds are allocated among general school administration and support services as well as instructional and related services in regular education, special education, Title I, and limited-English proficient (LEP) programs.

■ Personnel expenditure allocation

Based on estimates obtained from the sample schools, special education personnel account for 17.3 percent of the budget for school site personnel in the average school, as shown in Figure 1. Regular education takes up 55.4 percent of the school site personnel budget. Title I and LEP programs account for 4.7 percent and 5.6 percent of the school site personnel budget, respectively. The remaining 17.1 percent of the school site budget for personnel is accounted for by general school administration (12.2 percent) and instructional support services (4.9 percent). This remaining portion of the budget includes the salaries of principals and other school administrators, clerical and custodial personnel, guidance counselors, librarians, and other general health personnel not assigned

to any specific program. Focusing strictly on instruction and related services to children, special education accounts for about 21 percent of the budget.[8]

Figure 1
Average percentage of personnel expenditures at the school site allocated among general school administration, instructional support, and other relevant education programs



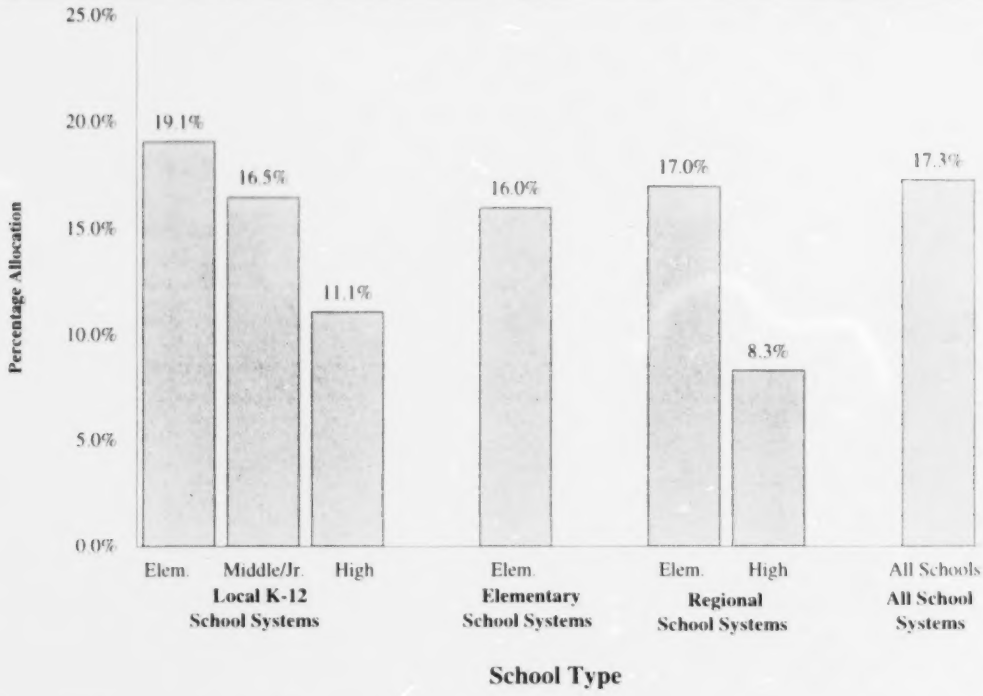
Note: Percentages may not add to 100 due to rounding.
Source: CSEF *Resource Allocation Forms*

The allocation to special education actually varies systematically by type of school and school system, as shown in Figure 2. Special education personnel account for a larger percentage of the personnel budget in elementary schools than in high schools. In the local K-12 school systems, more than 19 percent of the personnel budget is allocated to special education in elementary schools, while only about 11 percent of the personnel budget is allocated to special education in high

[8]The instructional and related service portion of the budget corresponds to the amount left over after general administration and support expenditures have been removed. The instructional and related service percentage is 82.9 (=100 - 17.1). The percentage of this budget allocated to special education is 20.9 (= 100 x 17.3/82.9).

schools.[9] A similar pattern is observed between elementary and high schools operating within regional academic or vocational systems.

Figure 2
Average percentage of school site expenditures on personnel allocated to special education personnel by school type



Source: CSEF *Resource Allocation Forms*

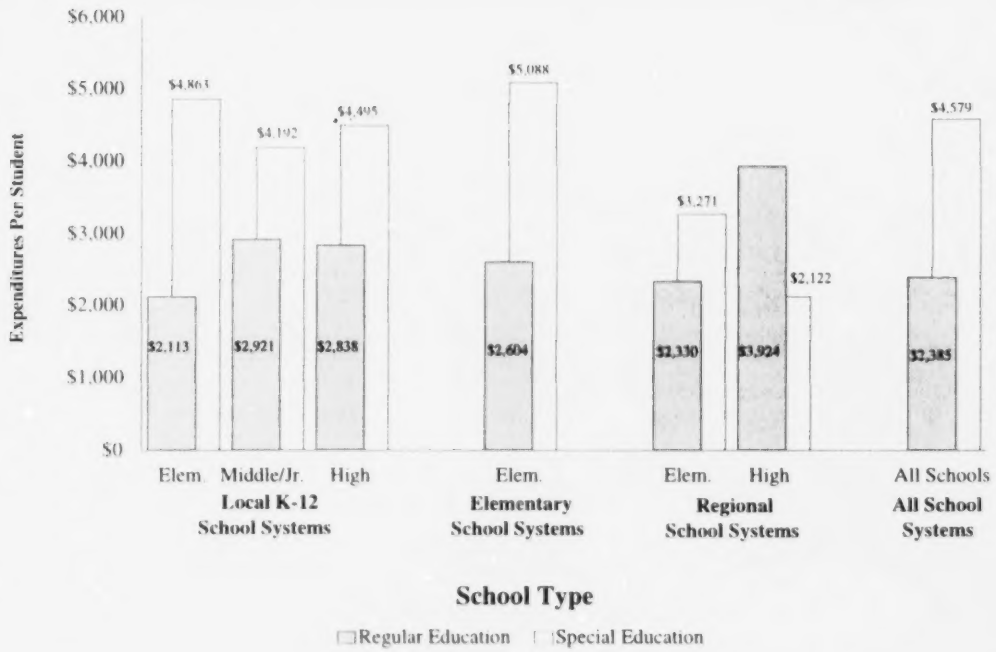
For schools at the same level (i.e., elementary or high school), special education personnel appear to account for a smaller percentage of the personnel budget in regional or academic school systems than in local K-12 school systems. Elementary schools in local K-12 school systems spend about 19 percent of their personnel budget on special education, while elementary schools in regional school systems spend 17 percent. Similarly, high schools in local K-12 school systems spend about 11 percent of their personnel budget on special education, while their counterparts in regional school systems expend just over 8 percent.

[9] As in the case of special education, special needs programs for educationally disadvantaged and non-English speaking children account for a greater percentage of the school personnel budget in elementary schools located in local K-12 school systems than in other types of schools and school systems. While this is not shown in the figures in this paper, this is clearly shown in Table C-1, Appendix C of the report on which the present paper is based (Chambers et al., 1995).

■ Per student personnel costs

Figure 3 compares data on the average expenditures per student on special and regular education personnel at the school site. The special education figures reflect the total salary and benefits of all personnel, certified and noncertified, who are providing special education services to eligible students, divided by the total number of special education students being served at the school site. Per student school personnel spending on the special programs includes both instructional and related services as well as the costs of site-level program supervision and/or coordination.

Figure 3
Average expenditures per student on instructional and related service personnel at the school site for the regular and special education programs



Source: CSEF *Resource Allocation Forms*

The regular education figures reflect the total salary and benefits of all personnel, certified and noncertified, who are providing regular education services divided by the total number of students being served in regular education programs for at least some portion of their day. This means that special education students who

are receiving some portion of their instruction in the special education program and some portion in the regular education program are being counted under both programs. Special education students who are exclusively being served in the special education program (e.g., in a special day class specifically designated for special education students) are not included in the regular education counts. In addition, general administration and instructional support services are excluded from these figures.

Per student expenditures for special education personnel range from a low of $2,122 for high schools in regional academic/vocational school systems to $5,088 for schools in elementary school systems. The overall average special education personnel expenditure per student at the school site is $4,579.

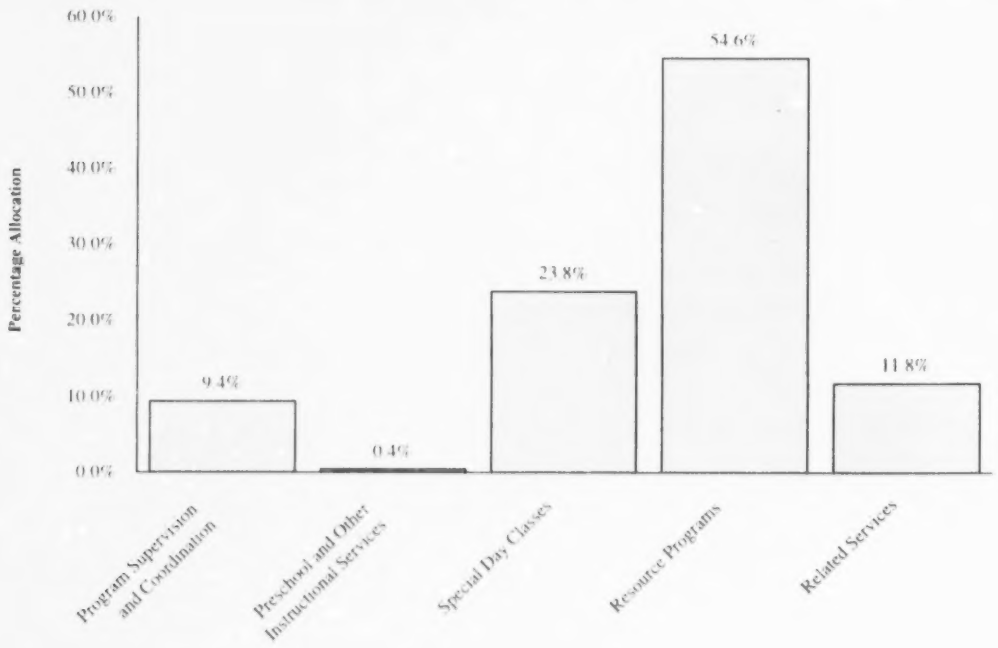
But how do these figures compare to expenditures for regular education? In the average elementary school located in a K-12 school system, special education spending per student is about 2.30 times higher than regular education. This special to regular education cost ratio is 1.95 for elementary schools in the elementary school systems. High schools and middle schools in the local K-12 school systems exhibit lower ratios of special to regular education expenditures per student (i.e., 1.58 for high schools and 1.44 for middle/junior high schools) than elementary schools in local K-12 and elementary school systems.

These cost ratios for special to regular education are lower for the regional school systems than they are for local K-12 and elementary school systems (i.e., 1.40 for regional elementary and .54 for regional high schools). This is especially true for the high schools in which the per student costs of special education are actually lower than the per student costs of regular education. The lower percentage of the budget spent on special education in regional high schools than in other high schools and the relatively low per student costs expended for special education students in regional high schools are consistent with the finding that students attending regional high schools are able to be served in more integrated, and hence less costly, placements than those attending high schools in the local K-12 school systems. Based on the sample of students used for this study, approximately 95 percent of the special education students attending high schools in regional school systems are served in more integrated settings, while less than 75 percent of special education students attending high schools in local K-12 systems are served in integrated settings.

How is the special education budget allocated among services?

The previous section provided some information on the overall allocation of resources to special education personnel. But how are special education budgets allocated among different types of services? What kinds of services are being provided and in what proportions? Figure 4 provides a general picture of how special education budgets are allocated.

Figure 4
Average percentage of school site special education personnel expenditures allocated among program administration, instructional services, and related services



Note: Percentages may not add to 100 due to rounding.
Source: CSEF *Resource Allocation Forms*

Based on estimates obtained from the sample schools, 9.4 percent of special education personnel budgets are allocated to program supervision and coordination activities, while the remaining 90.6 percent are allocated to instructional and related services. In the typical school, about 78.4 percent of special education personnel budgets are allocated to special day classes or resource

programs. Special day classes, which are basically segregated, self-contained classrooms exclusively for children with disabilities, account for 23.8 percent of the special education personnel budget at the school site. Resource programs, which are basically part-time programs for students with disabilities, account for 54.6 percent of this budget. Related services average about 11.8 percent of the special education personnel budget at the typical school. Only a fraction (0.4 percent) of the personnel budget is allocated to preschool and other instructional programs.

More important, there are differences in the way special education services are organized at the elementary, middle/junior high, and high school levels, as shown in Figure 5.

Regular education in elementary schools is traditionally organized around self-contained classrooms in which students spend the entire day with a single teacher receiving instruction in a variety of subjects. Instructional services for students with disabilities are most commonly provided in one of three ways in the elementary school: the special day class, an integrated resource program, or a pull-out resource program. Approximately 24 percent of special education students in the study sample attend separate, self-contained special day classes designed specifically for students with disabilities. Because these are commonly small classes (ranging in size from 3 to 12 students), special day classes account for more than one-third of the budget for elementary school special education personnel.

The remaining elementary special education students receive instructional services through integrated or pull-out resource programs. The traditional pull-out resource program is one in which children are removed part-time from the regular education self-contained classes for specialized instruction designed to meet their specific needs. The alternative is the more integrated resource programs in which resource teachers and/or instructional aides provide specialized services to students within the regular self-contained environment. More than 26 percent of the special education personnel budget is devoted to providing services in the integrated model, while just under 20 percent of this budget is devoted to providing services in the more traditional pull-out model.

While special day classes account for more than one-third of the budget for elementary school special education personnel, they account for less than 8 percent of the special education personnel budget for high schools. Resource programs account for 46.2 percent (= 26.1 + 19.9 + 0.2) of the special education personnel budget in elementary schools, while at the high school level, resource programs account for more than 68 percent (= 16.9 + 9.6 + 41.9) of this budget. In addition

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Figure 5
Average percentage of school site special education personnel expenditures allocated among program administration, instructional services, and related services in local K-12 school systems by type of school

ELEMENTARY SCHOOLS
Program Supervision and Coordination 6.8%
Preschool and Other Instructional Services 0.6%
Special Day Classes 33.6%
Resource Program Integrated 26.1%
Resource Program Pull-out 19.9%
Resource Program Separate Specialized Subjects 0.2%
Related Services Speech and Language 9.8%
Related Services PT/OT 2.8%
Other Related Services 0.2%
MIDDLE/JR. HIGH SCHOOLS
Program Supervision and Coordination 11.1%
Preschool and Other Instructional Services 0.0%
Special Day Classes 10.1%
Resource Program Integrated 14.0%
Resource Program Pull-out 17.0%
Resource Program Separate Specialized Subjects 40.6%
Related Services Speech and Language 5.7%
Related Services PT/OT 1.1%
Other Related Services 0.3%
HIGH SCHOOLS
Program Supervision and Coordination 11.8%
Preschool and Other Instructional Services 0.4%
Special Day Classes 7.9%
Resource Program Integrated 16.9%
Resource Program Pull-out 9.6%
Resource Program Separate Specialized Subjects 41.9%
Related Services Speech and Language 9.1%
Related Services PT/OT 0.6%
Other Related Services 1.8%
0.0% 10.0% 20.0% 30.0% 40.0% 50.0%
Percentage Allocation

Note: Percentages may not add to 100 due to rounding.
Source: CSEF *Resource Allocation Forms*

to the difference in the overall allocation to resource programs, the two school levels organize these programs quite differently. Regular education services are predominantly provided in departmentalized environments in middle/junior high and high schools. Students attend a school day broken into separate periods in which different subjects are covered often by separate teachers from different departments or with different areas of specialization.

This division of the day into separate periods for upper grade students appears to apply in a similar fashion for special education students as well. Most students with disabilities will commonly attend some periods in classes with regular education students, and attend other periods in separate classes that are organized into specialized subject areas designed to meet their needs (e.g., functional English, functional math, life skills). These classes are distinguished from pull-out programs in that the student is not pulled-out of an ongoing regular class, but is served in a separate special education class during a specific period of the day. Figure 5 shows that while some of the services received by special education students are in integrated or pull-out programs at the middle/junior high and high school levels, most of the instructional services are received in resource programs organized as *separate specialized subjects*. In fact, more than 40 percent percent of the special education personnel budget is devoted to these *separate specialized subject* classes.

Among the related services, speech and language services are the most common services received by children receiving special education services. More than 9 percent of the special education personnel budget, on average, is devoted to speech and language services at the elementary and high school levels, while less than 6 percent is allocated to these services at the middle/junior high school level. Almost 3 percent of the special education personnel budget is allocated to physical and occupational therapy at the elementary level, while only about 1 percent or less is allocated at schools above the elementary level.

Costs of inclusion

There has been much discussion in recent years about the costs and benefits of inclusionary practices in education. While inclusion can be described or defined in many ways, inclusion generally involves serving special needs populations in regular environments (i.e., in *integrated resource programs*) to a greater extent. Thus, the degree of inclusion is measured by the extent to which special education students are served in *integrated resource programs*. But what is the relationship between overall special education spending and the allocation of resources to inclusionary practices? Does inclusion cost more or less? While the data presented in this study are not suited to answer this question unambiguously, analysis of these data does show that there is no relationship between special education personnel expenditures and the degree of inclusion (i.e., percentage of the instructional budget allocated to *integrated resource programs*) within the school. That is, schools spending more on *integrated resource programs* show no meaningful difference in the overall level of special education budgets. This statement remains

true even if one controls for the type of school, type of district, or alternative measures of community wealth or income.[10]

How do revenues and expenditures compare for special education?

Under the Foundation formula currently in use, is Massachusetts providing sufficient revenues to support special education services in the typical school system?

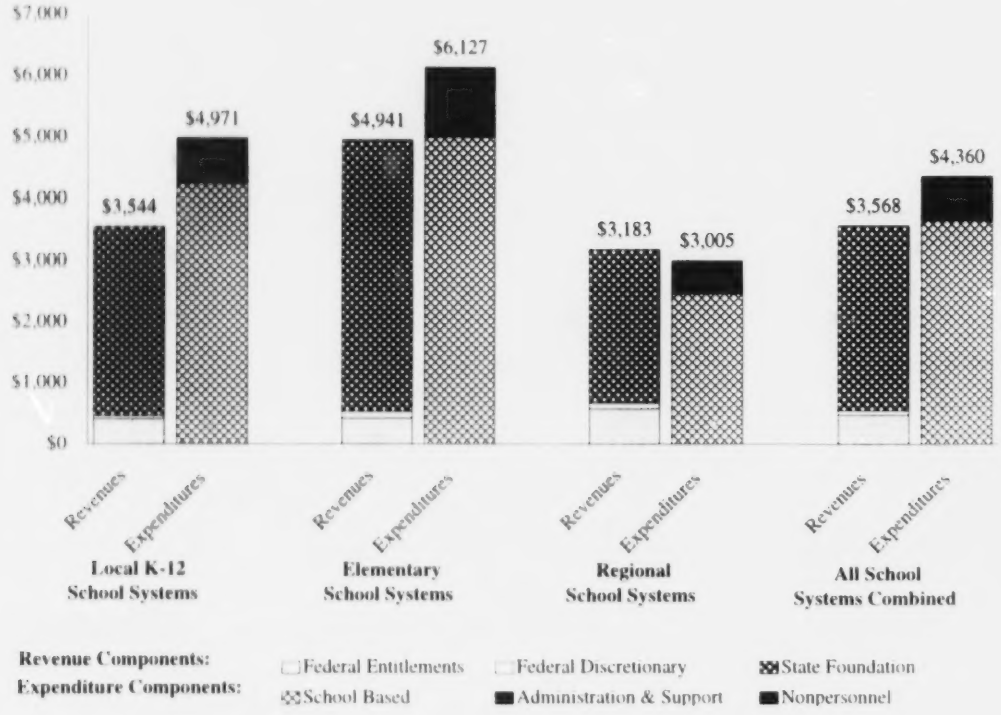
The way in which the Foundation formula is structured, a portion of the funds is generated based on assumptions about the percentage of special education students who will be served *within* each school system and the percentage of students who will be served in *out-of-district* placements. The within-district placements include services provided at regular schools operated by the district and may include special day classes or resource programs. The out-of-district placements include public or private special day, residential schools, or facilities most commonly designed to serve students with severe disabilities.

The comparison of the additional revenues provided by special education services and expenditures for special education is divided between the within-district versus the out-of-district placements to determine if these allocations have any relationship to costs for each category of student. Figures 6a and 6b present the overall estimates of special education expenditures per student for within-district placements and out-of-district placements, respectively, by type of school system. Both revenues and expenditures presented in figures 6a and 6b represent the incremental dollar amounts over and above the regular education revenues and expenditures that may be attributed to special education students.

Figures presented earlier in this paper focused entirely on school site personnel expenditures. In Figures 6a and 6b, in order to arrive at estimates of *total* special education expenditures, it is necessary to combine these school site personnel expenditures with district-level data on special education program administration and support and estimates of nonpersonnel expenditures per student for the special education program.

[10]Appendix D of the full report (Chambers et al., 1995) contains a more detailed presentation of the statistical analysis on which this statement is based. Two regression equations were run using the school-level data.

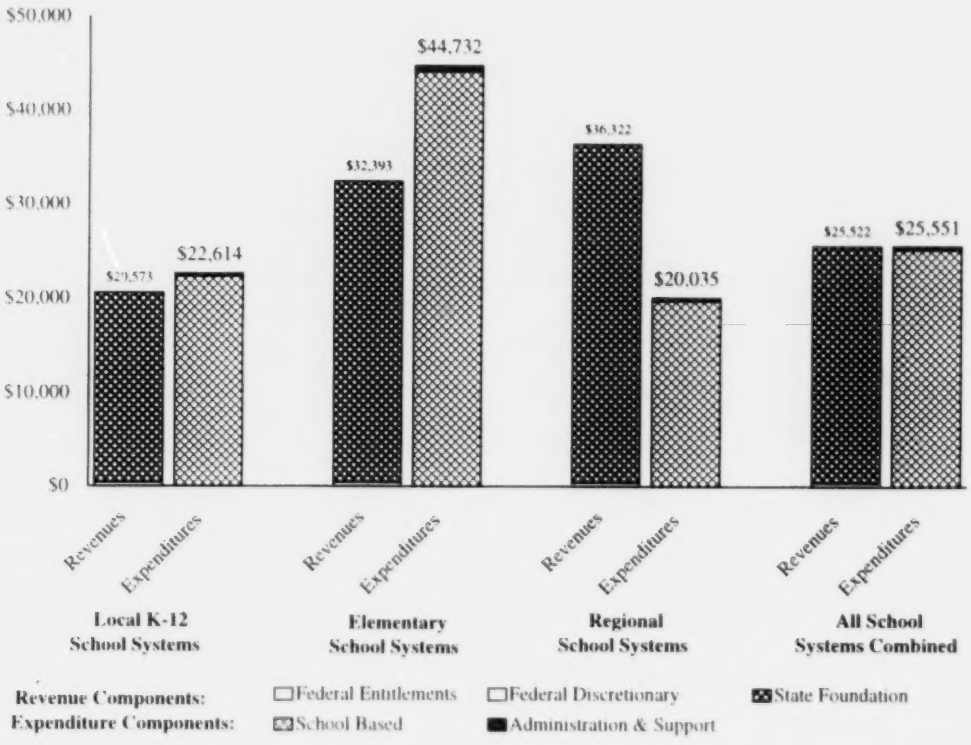
Figure 6a
Average foundation revenues and expenditures per student for in-district special education services



Source: CSEF *Resource Allocation Forms*; Grants Recipient Listing, Massachusetts Department of Education: Fiscal Year 1995 Foundation Program, Massachusetts Department of Education

Figure 6a reveals that the overall average special education expenditures for students served within-district amount to $4,360. These expenditures range from an average of $3,005 for regional school systems, to $6,127 for elementary school systems, and finally to $4,971 for local K-12 school systems. Overall, 85 percent of special education revenues are generated through the Foundation formula (comprised of a combination of local and state revenues), while federal revenues account for 15 percent. For every special education student served within the district, school systems spend an average of $792 (= $4,360 - $3,568) more than the amount that is provided by the Foundation formula and by federal revenues specifically for special education services.

Figure 6b
Average revenues and expenditures per student for out-of-district special education programs



Source: CSEF *Resource Allocation Forms*; Grants Recipient Listing, Massachusetts Department of Education; Fiscal Year 1995 Foundation Program, Massachusetts Department of Education; Data provided by the Massachusetts Department of Education re: Residential School 50/50 Account #7061-0012

Figure 6b reveals that the overall average expenditures for students served out-of-district (including day and residential schools) amount to $25,551 per student. These expenditures range from an average of $20,035 for the regional school systems, to $44,732 for the elementary school systems, and finally to $22,614 for the local K-12 school systems. Overall, 98 percent of out-of-district special education revenues are generated through the Foundation formula and the state direct payment provision.[11] In elementary school systems, an average of $12,339

[11]In addition to the state Foundation formula, when schools send students to out-of-district residential schools that are approved by the state to provide special education services, the state will pay (directly to the residential school) up to 50 percent of the tuition for the students.

more is spent per special education student than is provided by the Foundation formula and by federal revenues specifically for out-of-district special education services. For local K-12 school systems, this amount is $2,041. In regional school systems, revenues exceed expenditures by $16,287 per student. The higher per student revenues relative to expenditures in regional school systems result from the way the census-based funding system operates when applied to the relatively lower percentages of children from regional school systems being served in *out-of-district* programs. That is, the revenues for these students are based on the overall student population and not on the actual count of children in out-of-district placements. The relatively lower expenditures tend to reflect the relatively lower levels of needs of the special education students attending regional school systems.

To help offset special education costs above and beyond the revenues displayed in Figures 6a and b, school systems can bill the Medicaid program for health-related special education services that are provided to children eligible for Medicaid. Overall, Medicaid reimbursements accounted for 3.7 percent of special education expenditures.[12] However, at the time of this study, the Massachusetts Municipal Medicaid program was just beginning to be utilized; and authorizing language for use of the revenues does not dedicate the revenue to the school system, but instead to the town. Therefore, reimbursement to the school system cannot be easily calculated.[13]

[12]This figure is based on Municipal Medicaid program information provided by the Massachusetts Department of Education.

[13]If the negotiated daily reimbursement for each prototype were provided fully to each school district, it is estimated that school systems would realize approximately a 25 percent reimbursement of their actual special education costs. This estimate is based upon the Massachusetts Municipal Medicaid rates as approved by the Division of Medical Assistance and provided by the Massachusetts Department of Education; and the assumption that the percentage of special education students eligible for Medicaid is approximate to the percentage of students from low-income families.

Discussions at the federal level suggest that the amount of funds available to each state under Medicaid may be "capped" in the future. If such action is taken, funds available to school systems under this Municipal Medicaid program may be jeopardized.

IV. Policy Issues and Concerns

With the expenditure and service delivery data as background, this section highlights some of the major policy issues and concerns identified through interviews conducted with local special education directors as part of this study. Some of the policy implications are also explored.

Formula Provisions

■ Flexibility

By its very nature, the census-based funding system in Massachusetts provides considerable flexibility regarding the allocation of resources to special education. State special education revenues are incorporated into the overall state education allocation received by all townships and municipalities, and there is virtually complete latitude as to how these funds can be used. Although some advocates and service providers may express concerns about the unusually high degree of latitude associated with the use of special education funds in the state, most of the local special education directors interviewed for this study indicated that they see this latitude as a positive aspect of the funding system. About half of the interviewed directors said that local budgeting autonomy assisted them in responding to the unique needs of special education students in their school systems. In addition, these directors responded that since state funds are noncategorical, they had the discretion to blend and use state funds for any purpose as long as the needs of special education students were met.

■ Private residential funding

A significant area of concern pertains to the separate funding system that has been created for those students placed in private residential settings. There is some irony that at the time of adopting a placement-neutral (i.e., census-based) funding

system, this sole exception was left in place. Some may argue that because this is a separate finance system, it should not be considered with the general special education finance formula. However, it is this separateness that is at the heart of the problem. Specifically, for students placed in private residential settings, the state pays 50 percent of the cost above and beyond the allocations to the general fund discussed earlier for all students assigned to out-of-district placements. Thus, a clear financial incentive seems to exist for placing high cost special education students in private residential placements. This is the type of incentive for restrictiveness that could raise questions at the federal level about the relationship between the state's fiscal policies and the *least restrictive environment* (LRE) provisions of the IDEA.

In commenting on these provisions, some local special education directors expressed concerns about the impact of a few high cost students on overall district resources, and they saw this additional state support for private residential placements as an important safety net. These types of concerns are real and are especially relevant in small districts and in states with special education funding formulas like Massachusetts, which, for the most part, are not based in any way on variations in the counts of children, the distribution of disabilities, or, more importantly, educational needs.

An alternative approach that the state may wish to consider is a more generic safety net option for high cost students wherever they are served (whether *within* or *outside* the district). For example, the state might fund 50 percent of the excess cost of any student with special needs once the costs have exceeded a specified threshold, whether the student is served in the neighborhood school or some other public or private school. As the local district would still be subject to one-half the excess cost, there would be reason for the district to recognize the relative economies of various alternatives; but at the same time the district would not be fiscally penalized for assigning less restrictive placements for high cost students.

■ Cost issues

Over two-thirds of interviewed special education directors indicated that a major concern with the special education finance system was insufficient funding. This perception is confirmed by the data reported earlier, which show expenditures generally exceed the revenues allocated for special education. Typically, special education directors remarked that the finance system has placed too much responsibility on local school systems to provide funding for state-mandated programs. Directors find themselves in a situation where they are fighting or

arguing with the city or town budget committee to secure funds for the special education program.

This study revealed several factors that appear to have an important impact on overall special education costs in the state. In addition to the incentive for high cost residential placements, these factors are the overall percentage of students served in special education, the types of placement for these students, the standard of service, administrative burden, and parental rights to independent assessment at district expense.

■ Percentage of students identified

Across the states, Massachusetts identifies the highest percentage of its students as in need of special education. During the 1992-93 school year, Massachusetts identified 11.48 percen t of the resident population of children age 6 to 21 as eligible for special education.[14] This compares to a national average of 7.98 percent and statewide averages as low as 5.15 percent in Hawaii and 6.18 percent in the District of Columbia. The magnitude of these variations in identification rates raises a question about the underlying causes. Are these differences a reflection of *true* differences in the distribution of student needs, or do they simply reflect differences in policies that create incentives for identification?[15]

■ Types of placement

The average costs of special education are affected greatly by the distribution of children across more versus less restrictive placements. Data reported to Congress for the 1991-92 school year indicate that Massachusetts has one of the highest percentages of its special education students in the unrestrictive, and generally lower cost, option of the regular classroom placement: 61 percent of special education students in this type of placement compared to about 35 percent nationally. However, because Massachusetts identifies such a high percentage of students in special education overall, the percentage of students in high cost placements as a percentage of the total school-age population is relatively high. Based on the percentage of school-age population in restrictive placements, Massachusetts ranks tenth among the states. In addition, it is fourth among the states in terms of the percentage of school-age population placed in separate

[14]This is based on data reported in U.S. Department of Education, *Sixteenth Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act*, 1994.

[15]For example, for this type of discussion, see Ysseldyke and Algozzine, 1982.

private settings.[16] The relatively high percentage of students in separate placements may be an overall policy concern of the state and is likely to be an important contributing factor to the overall costliness of special education in Massachusetts as compared to other states.

■ Standard of service

Another state policy factor that may have a substantial effect on the cost of special education services in Massachusetts is the standard of service adopted for their programs. The standard of *"maximum feasible benefit"* established for special education services in the state clearly implies a higher set of expectations and standards for these programs than in most other states in which the federal standard of a *"free and appropriate public education"* is followed. One might expect that the establishment of such a high standard of service is likely to serve as an inducement for entry into special education. In addition, with such a standard of service in place and given the highly litigious environment within which special education operates, it would seem difficult for local districts to deny special education students access to any services from which they might possibly benefit.

■ Parental rights to independent assessment

Another issue relating to cost is that, under state law, parents have considerable latitude to request independent assessments at district expense. Almost half of the directors indicated that there is an incentive to overidentify the number of special education students, primarily because of the eligibility standards or identification regulations for special education currently in place under State law (i.e., Chapter 766). Directors perceived these standards and regulations to be too vague, thus resulting in overidentification, due to an increase in parents' ability to request a special education placement for their child. Instead of allowing the school system to make modifications to the student's regular education program, parents are using Chapter 766 to bypass the prereferral process and make direct special education referrals for their child. In addition, the current eligibility standard also allows parents to request an evaluation based on minimal evidence that the child needs special education services.

There was a consensus among directors that current Massachusetts law gives too much authority to the parents in making decisions about placements and services for special education students. The directors felt that state law places them on the

[16]This is based on data provided by the U.S. Department of Education, Office of Special Education Programs, Data Analysis System (DANS) and is reported in O'Reilly, 1995.

defensive when they are trying to determine appropriate services to provide for special education students. Furthermore, directors believed that their authority is restrained by the strict limits placed on property tax levies by Proposition 2½ (Massachusetts' property tax limitation provision).

Conclusion

In its purest form, census-based funding systems remove incentives for identification and do not create incentives for more restrictive placements for special education students. However, provisions of the law in Massachusetts do create an environment compatible with the continued high rates of identification. Moreover, the provisions for additional state support for students in private residential placements create an incentive for utilization of these high cost assignments.

It also seems likely that the cost of special education is higher in Massachusetts than in most other states, although direct cross-state comparison data are lacking. High identification rates overall, coupled with relatively high numbers of students in high cost, restrictive placements, lead to this conclusion. In addition, there appears to be a continuing fiscal incentive for districts to place students in private residential settings where the state will assume up to 50 percent of the cost, as opposed to private day placements where districts pay 100 percent of the cost.

Given the revenue and expenditure comparisons presented in this paper, it is not surprising that insufficient funding was the predominant concern expressed by the special education directors interviewed for this study. They argue that because special education is a mandated program, other social service agencies, which also have constrained budgets, are increasingly turning to special education to meet the health and social, as well as the education, needs of special education students. They also contend that parental demands for special education services are growing, and that school districts are losing their ability to deny access to the program or to contain service levels, even when they believe this is warranted.

Overall, although concerns were expressed about special education funding policy in Massachusetts, virtually none of the interviewed special education directors seemed to be calling for a return to the old funding system or a major revamping of the current one. Given the amount of change in special education fiscal policy currently sweeping the country, this may be taken as a rather strong indicator of relative satisfaction. Clearly, the most pressing concern was that resources are generally insufficient. This common concern is heard by special education service providers throughout the country, who seem to find themselves in a *Bermuda*

triangle of increasing service demands through parental pressures and expanding state and federal requirements; diminishing support from other public social service, health, and welfare agencies; and stable or diminishing fiscal support for special education.

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